

January 10, 2003

TO: Internal File

THRU: Joseph C. Helfrich, Team Lead

FROM: James D. Smith, Sr. Reclamation Specialist/Hydrology

RE: Midterm Review, PacifiCorp, Cottonwood/Wilberg Mine, C/015/019-MT02-2

**SUMMARY:**

As part of the Division's midterm permit review process, sections of the Cottonwood/Wilberg mining and reclamation plan were reviewed for compliance with the R645 Coal Mining Rules.

A midterm review of the applicable portions of the MRP has found that the plan contains a commitment that appropriate sediment control measures will be designed, constructed and maintained using the Best Technology Currently Available (BTCA) to:

- C Prevent, to the extent possible, additional contributions of sediment to stream flow or to runoff outside the permit area;
- C Meet the effluent limitations under R645-301-751; and
- C Minimize erosion to the extent possible.

Design and as-built information in the MRP generally indicates that BTCA is being used for sediment control at ASCAs at the Cottonwood/Wilberg Mine, but the location of some ASCAs and disposition of the BTCA sediment control measures are not clear on some maps and plans.

The final submittal included an update of page 58 to remove UPDES discharge point 004, which was dropped from the UPDES permit UT-022896 when it was renewed in November 2002.

TECHNICAL MEMO

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**TECHNICAL ANALYSIS:**

**OPERATION PLAN**

**HYDROLOGIC INFORMATION**

Regulatory Reference: 30 CFR Sec. 773.17, 774.13, 784.14, 784.16, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-300-140, -300-141, -300-142, -300-143, -300-144, -300-145, -300-146, -300-147, -300-147, -300-148, -301-512, -301-514, -301-521, -301-531, -301-532, -301-533, -301-536, -301-542, -301-720, -301-731, -301-732, -301-733, -301-742, -301-743, -301-750, -301-761, -301-764.

**Analysis:**

**Water-Quality Standards And Effluent Limitations**

Volume2, Part 3, Page 58 has been updated. UPDES discharge point 004 has been removed from the text. This UPDES monitoring point was dropped from UPDES permit UT-022896 when it was renewed in November 2002.

**Sediment Control Measures**

*Alternate Sediment Control Areas (ASCA)*

There are ten ASCAs in the permit area. A total of 17.06 acres is disturbed by these ASCAs according to Table 5 in Part 3 of the MRP. Information on the Sewer Absorption Field and the Guard Station has been updated to match GPS surveys done to respond to deficiencies identified during the mid-term review.

1 - Miller Canyon – 0.02 acre. Sediment control at this reclaimed area is by surface roughening and deep pocking. This is discussed in Appendix XXII. Locations of the three small disturbed areas are shown on a map in Attachment # 4, but there are no detailed maps or plans. A photo essay in Attachment #5 and other photos in Appendix XXII document the nature of the ASCAs and BTCA used for sediment control. Detailed maps or drawings would provide no additional useful information.

2 – Sewer Absorption Field – 2.0 acres. Silt fence and vegetation provide sediment control. Map 1-3 shows the general location at a small-scale. Plate 3-18, Map 7704-PP10 in Volume 6 details the placement of the silt fence at a larger scale. The Sewer Absorption Field covers approximately 3.7 acres. The disturbed area boundary (which encloses an island of undisturbed land) is shown on Drawing 7704-PP10: the total area within the disturbed area boundary, resurveyed in October 2002, is 2.0 acres.

3 – Proposed Cottonwood Fan-Portal Reclamation – 8.4 acres. This site is being reclaimed, and surface roughening, deep pocking, strawbales, silt fence, sedimentation basins, berms, and rock gabions provide sediment control. Although not specified in the MRP, vegetation is becoming established and provides substantial sediment control. Sedimentation ponds were removed in 2002. Silt fences may be removed in the near future. Map 3-13 of Volume 11 shows the features of this ASCA.

4 – Waste Rock Site – Outslope – 0.93 acre. Strawbales and silt fence provide sediment control at this ASCA, which is the outslope of a reclaimed waste rock pile. Plate 4-1 (Drawing CM-10826-WB) in Appendix VII shows the location of this ASCA.

5 – Guard Station – 0.88 acre. Silt fence and vegetation provide sediment control. Map 3-16 (Drawing WS449D) shows details of this area, including the silt fences and disturbed area boundary. An inspection of the mine on September 19, 2002 revealed several discrepancies between the existing map 3-16 and actual locations of siltation structures and the permit and ASCA boundaries around the Guard Station. These have been resolved satisfactorily on the revised Map 3-16. The total area of this ASCA, resurveyed in October 2002, is 0.88 acre.

Behind the Guard Station there is a large silt fence across the main drainage, just above the outlet of the 90-inch main by-pass culvert. According to the permittee, this silt fence requires frequent cleaning and maintenance, which is understandable as this silt fence mainly treats road drainage and runoff from a large undisturbed area.

However, this silt fence near the by-pass outlet also treats runoff from:

- Sections of road that do not report to the South Pond (below the slot drains that report to the pond);
- The outslopes of the South Pond; and
- The outslope of the berm around the boulder pile located below the South Pond.

Straw bales filter runoff from these three areas before it enters the drain reporting to the silt fence. The bales are shown on Map 3-16. As long as the straw bales are maintained, the silt fence is not needed to treat runoff from the three described areas (the portion of runoff that comes from the road does not require treatment anyway).

6 – Conveyor Bent Pad – 0.04 acre. Sediment control is by strawbales. Map 3-16 shows this ASCA surrounds the base of a conveyor bent located inside the disturbed area boundary. This ASCA is a relatively flat area cut into the side of a steep escarpment. The drainage from the area around this ASCA reports to the sedimentation ponds, but runoff from the ASCA itself is directed toward the adjacent 30-inch bypass culvert rather than to the disturbed area, and is filtered by straw bales at the edge of the ASCA.

7 – Tube Conveyor Access Road - 0.24 acre. Sediment control is by silt fence, strawbales, and berms. Map 3-16 shows this ASCA.

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8 – Wilberg Fan - 0.67 acre. A sediment trap and berm provide sediment control. Map 3-16 shows this site.

9 – Deer Creek Mine 9<sup>th</sup> East Breakouts – 0.60 acre. Reclamation of this site was completed in 1999, and surface roughening and deep pocking provide sediment control. The ASCA is shown on Map 3-16.

10 – Waste Rock Site –65027 – 3.28 acres. Map 4-2 in Volume 10 indicates the general location of this ASCA, and Map 4-1 details the location of the ASCA and the silt fences.

*Other*

Map 3-16 shows a small permitted, disturbed area centered on four concrete footings that support the bent on the north-south conveyor, which runs from the Wilberg Mine belt portal-C to the silo. This small disturbed area is an island surrounded by non-permitted pre-SMCRA disturbance. The footings themselves are pre-SMCRA structures. There has been no post-SMCRA disturbance of this small area, but it is included in the disturbed area because the conveyor system supported by these footings is part of the permitted operation: the reclamation plan is not clear as to whether these footings will be removed during reclamation. The concrete supports take up a large portion of this small area, and the remainder is the same as the pre-SMCRA disturbed surface outside the disturbed area boundary - mostly bare rock, rubble, and coalmine waste. Erosion appears to be minimized to the extent possible, with no contribution of additional sediment to stream flow or to runoff outside the permit area.

This small area is not designated as an ASCA or SAE. Runoff from this small disturbed area can flow down onto disturbed, unpermitted, pre-SMCRA land, and drainage from this pre-SMCRA area reports to the main 72-inch by-pass culvert without treatment. Exemptions to the Siltation Structures requirements of R645-301-742.200 and R645-301-763 may be granted if the disturbed drainage area within the total disturbed area is small and the operator demonstrates that siltation structures and alternate sediment control measures are not necessary for drainage from the disturbed areas to meet the effluent limitations under R645-301-751 or the applicable Utah and federal water quality standards for the receiving waters. The MRP contains no such demonstration from the operator, but this has apparently been accepted as *de facto* since the permit for this mine was issued.

**Findings:**

Information on the use of BTCA to prevent additional contributions of suspended solids to stream flows outside of the permit area is sufficient to meet the requirements of the Coal Mining Rules.

## MAPS, PLANS, AND CROSS SECTIONS OF MINING OPERATIONS

Regulatory Reference: 30 CFR Sec. 784.23; R645-301-512, -301-521, -301-542, -301-632, -301-731, -302-323.

### Analysis:

#### *Mining Facilities Maps*

ASCAs are shown on various maps, plans, or drawings in the MRP.

1 - Miller Canyon – Locations of the three small disturbed areas are shown on a map in Attachment # 4, but there are no detailed maps or plans. A photo essay in Attachment #5 and other photos in Appendix XXII adequately document the nature of the ASCAs and BTCA used for sediment control. Detailed maps or drawings would provide no additional useful information.

2 – Sewer Absorption Field – 2.0 acres. Silt fence and vegetation provide sediment control. Map 1-3 shows the general location at a small-scale. Plate 3-18, Map 7704-PP10 in Volume 6 details the placement of the silt fence at a larger scale. The Sewer Absorption Field covers approximately 3.7 acres. The disturbed area boundary (which encloses an island of undisturbed land) is shown on Drawing 7704-PP10: the total area within the disturbed area boundary, resurveyed in October 2002, is 2.0 acres.

3 – Proposed Cottonwood Fan-Portal Reclamation – 8.4 acres. This site is being reclaimed. Map 3-13 of Volume 11 shows the features of this ASCA.

4 – Waste Rock Site – Outslope – Strawbales and silt fence provide sediment control at this ASCA, which is the outslope of a reclaimed waste rock pile. Plate 4-1 (Drawing CM-10826-WB) in Appendix VII shows the location of this ASCA.

5 – Guard Station. Silt fence and vegetation provide sediment control. Map 3-16 (Drawing WS449D) shows details of this area, including the silt fences and disturbed area boundary. An inspection of the mine on September 19, 2002 revealed several discrepancies between the then existing Map 3-16 and actual locations of siltation structures and the permit and ASCA boundaries around the Guard Station. This area was resurveyed in October 2002 and the discrepancies have been resolved on the revised Map 3-16.

The inspection on September 19, 2002 also identified an area adjacent to the road, on the east side near the entry gate and beginning between the first and second sections of guardrail, that is used for access to clean-out the silt fence. This access area is also part of the ASCA and is treated by a second silt fence adjacent to and perpendicular to the large one across the drainage. This area is included in the Guard House ASCA on Map 3-16.

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**Findings:**

Information on the use of BTCA to prevent additional contributions of suspended solids to stream flows outside of the permit area is sufficient to meet the requirements of the Coal Mining Rules.

**RECOMMENDATION**

The Permittee has provided the information required in the R645 Coal Mining Rules as outlined above. Approval of these amendments to the MRP is recommended.